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Qualitative assessment of the medieval fortifications condition with the use of remote sensing data (Republic of Tatarstan)

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Abstract

© 2017 SPIE. Archaeological monuments are an essential part of the cultural landscape. According to UNESCO directive, the "cultural landscape" is understood not simply as a result of joint creativity of man and nature, but as a purposefully formed natural and cultural territorial complex, which has structural, functional integrity, developing in specific physical and geographical, cultural and historical conditions. This article discusses the modern condition of the archaeological monuments of the Republic of Tatarstan, as a manmade part of the cultural landscape. Fortified settlements, with the system of defensive fortifications, were selected as the objects of study, as they are easily identified by remote sensing data. Identification and evaluation of monuments destruction risks is a priority in the study of medieval settlements. Due to the fact, that most of monuments is located on the small rivers banks, the first task of our study was to assess the risk of their destruction by natural processes. The second objective was to evaluate the role of the human factor in archaeological sites destruction. One of the main used methods is archival and modern remote sensing data analysis that also made able to correct the form of study settlements in comparison with existing plans, as well their size and location in the landscape. The results of research will help to identify trends in the monuments state and quantify the risks of their destruction.

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Keywords

Aerial image, Anthropogenic factor, Archaeology, Cultural heritage management, Exogenous factor, GIS, Medieval hillfort, Remote sensing

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